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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,064	08/26/2003	Jean R. Chang	TUC920030104US1	2937

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EXAMINER

MYINT, DENNIS Y

ART UNIT	PAPER NUMBER
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2162

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/648,064

Applicant(s)

CHANG ET AL.

Examiner

Dennis Myint

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-5, 7 and 9-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-5, 7, 9-10, and 12-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to Applicant's Amendment, filed on February 13, 2007.
2. Claims 1, 3-5, 7, 9-10, and 12-24 are pending in this application. Claims 1, 7, and 15 are independent claims. In the Amendment filed on February 13, 2007, claims 1, 4, 5, 7, and 15 were amended. Claims 21-23 are newly added. **This office action is made final.**
3. In light of the amendments made, rejection of claims 1, 3-7, and 9-20 under 35 U.S.C. 101 is hereby withdrawn.

Response to Arguments

4. The applicant's arguments filed on February 13, 2007 have been fully considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 1, 3-5, 15-20, 21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gelb et al., (hereinafter "Gelb") (U.S. Patent Number 5018060) in view of Basham et al. (hereinafter "Basham") (U.S. Patent Number 5757571) and further in view of Stickler (U.S. Patent Application Publication Number 2003/0193994).

Referring to claim 1, Gelb et al. is directed to a system and method for selecting storage media to improve data access performance and teaches the limitations:

"a reception module implemented in software for execution on a processor and configured to receive a dataset from an application that does not support scaling for storage exclusively on a magnetic tape storage medium" (Figure 4: *Data Facility Product 32, Peripheral Data Storage 12*; Column 18 Line 47 through Column 19 Line 59; Column 12 Lines 64 through Column 13 Lines 15-23; and Column 16 Lines 65-68);
and

"an identification module implemented in software for execution on a processor and configured to identify storage characteristics of the dataset" (Figure 4: *Data Facility Product 32* and Column 19 Lines 16-39, i.e. *The parameters in MGMTCLAS ACS ROUTINE are compared with the received data set parameters for determining a best comparison which indicates which of the management classes listed above is selected for the data set.*); and

"that indicate (scaling) is beneficial (Gelb, Column 3 Line 65 through Column 4 Line 11, i.e., *The patent does teach the concept of a group of storage volumes (virtual volumes in the tape library) which are scanned for finding a best suitable storage volume for storing a data set to be stored*) "; and

"the storage controller stores the dataset on a magnetic tape storage in response to the storage instruction" (Gelb, Column 16 Lines 60 through Column 17 Lines 40, i.e., *Operators hand carry tape reels (volumes) between storage unit(s) 50 and tape drives of tape subsystem(s) 48 and 49. An automatic data media library (tape o disk) 55 may also be included in peripheral data storage 12;* and Figure 5 and Figure 6). Gelb teaches a storing module (Figure 4: *Data Facility Product 32*) which stores the data set on a storage medium (Figure 4: *Peripheral Data Storage 12*) according to the storage characteristics of the data set (i.e. *received data set parameters*).

Gelb does not explicitly disclose the limitation: "a scaling module implemented in software for execution on a processor and configured to select a storage instruction in response to storage criteria applied to the storage characteristics and communicate the selected instructions to a storage controller, wherein the storage instruction comprises

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an instruction to scale the magnetic tape storage medium to a predetermined capacity for optimal data access performance” and “wherein storage characteristics comprise compaction and media interchange specifications”.

On the other hand, Basham teaches the limitation:

“a scaling module configured to select a storage instruction in response to storage criteria applied to the storage characteristics communicate the selected instructions to a storage controller, wherein the storage instruction comprises an instruction to scale the magnetic tape storage medium to a predetermined capacity for optimal data access performance” (Column 3 Lines 68-61, Column 11 Lines 25-30, Column 14 Lines 38-43, Column 14 Line 64 through Column 15 Line 6, and Column 15 Lines 16-39. Particularly note Column 3 Lines 68-61 which recites that *Until the tape is filled, future data may be stored by creating additional partitions as described above, each partition having a variable size appropriate to the amount of data stored therein;* Column 11 Lines 25-30 which recites that *an application may require assorted sizes of fixed-size partitions, each partition including one or more adjacent segments, as required by the application;* and Column 11 Lines 33-36 which recites that *As an example, partition sizes may be established by receiving user input (now shown) prior to tasks 502 and 604)* and ““wherein storage characteristics comprise compaction” (Basham et al., Column 5 Lines 55-64, i.e., *The controller 204 manages the exchange of user data between the tape medium 206 and the host 202. The controller 204 also handles other tasks associated with storage and retrieval of user data, such as*

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*formatting, error checking, **compaction**, and other tasks that may be advantageously invisible to the host 202.).*

Stickler teaches the limitation:

*"media interchange specifications" (Stickler, Paragraph 1024, i.e., the Generalized Media Archive (GMA) specification defines a serialization for MARS property value sets based on XML which is suitable for both **data interchange** as well as **persistent storage**, and provides a DTD and other mechanisms for validation and processing).*

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to the feature of storage medium scaling as taught by Basham et al. and media interchange specifications as taught by Stickler to the system and method of taught for selecting storage media to improve data access performance taught by Gelb et al. so that the resultant system would constitute an apparatus for selecting storage media scaling to improve data access performance, wherein the storing module (Gelb, Figure 4: *Data Facility Product 32*) would be performing the functions of the reception module, identification module, and scaling module of the claimed invention. One would have been motivated to do so in order to *more efficiently and conveniently locate, read, write, and update data stored on magnetic tape media* (Basham, Column 2, Line 47-49) “.

Referring to claim 3, Gelb teaches the limitation:

“wherein the storage instruction comprises an instruction to not scale the magnetic storage medium” (Column 19 Line 16-58). In the apparatus of Gelb in view of Basham, storage instructions could be to save the data set in the storage medium without scaling the storage medium, that is, without calling the scaling routine taught by Basham et al. (Gelb, Column 19 Line 16-58).

Referring to claim 4, Gelb teaches the limitation:

“further comprising a determination module implemented in software for execution on a processor and (Figure 4: *Data Facility Product 32*) configured to store a plurality of predefined storage criteria and compare the storage characteristics of the received dataset with the predefined storage criteria to determine the storage instruction” (Column 12 Lines 43-61, i.e., *storage classes* and”, and Column 18 Line 47 through Column 19 Line 15, i.e., *compare the information*).

Referring to claim 5, Gelb in view of Basham teaches the limitation:

“further comprising a mapping module implemented in software for execution on a processor (Gelb, Figure 4: *Data Facility Product 32*) configured to track capacity information for the storage medium that stores the dataset (Basham, Column 13 Lines 43-67, i.e., *automated padding*). Note that the system of Basham tracks the capacity of the storage medium and such feature could be combined into the *Data Facility Product* of the system of Gelb.

Claim 15 is rejected on the same basis as claim 4 (Gelb, Column 4 Lines 25-27, i.e., (*Machine-effected method of the invention,*). Claim 4 incorporates all the limitations of claim 1.

Referring claim 16 Gelb teaches the limitation:

"wherein the method further comprises defining a plurality of storage characteristics as storage characteristics that require on optimally scaled magnetic tape storage medium" (Column 8 Line 20-62). Gelb in view of Basham discloses the claim limitation. Specifically note that, in the apparatus/system of Gelb in view of Basham storage characteristics are defined for different levels of capacity, access mode, and performance (Gelb, Column 8 Line 20-62, i.e., *Storage classes and their service attributes*) and storage medium could be scaled as necessary employing the scaling method taught by Basham. Therefore, the method and system of Gelb in view of Basham further comprises defining a plurality of storage characteristics as storage characteristics that either require storage on optimally scaled storage medium or satisfy storage criteria for storing the dataset on optimally scaled storage medium.

Referring to claim 17, Gelb in view of Basham teaches the limitation:

"wherein the method further comprises defining a plurality of storage characteristics as storage characteristics that require storage on maximum capacity magnetic tape storage medium" (Column 8 Line 20-62). Gelb in view of Basham discloses the claim limitation. Specifically note that, in the apparatus/system of Gelb in

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view of Basham storage characteristics are defined for different levels of capacity, access mode, and performance (Gelb, Column 8 Line 20-62, i.e., *Storage classes and their service attributes*) and storage medium could be scaled as necessary employing the scaling method taught by Basham. Therefore, the method and system of Gelb in view of Basham further comprises defining a plurality of storage characteristics as storage characteristics that either require storage on optimally scaled storage medium or satisfy storage criteria for storing the dataset on optimally scaled storage medium.

Referring to claim 18, Gelb in view of Basham teaches the limitation:

"wherein determining further comprises identifying storage characteristics that satisfy storage criteria for storing the dataset on optimally scaled magnetic tape storage medium (Column 8 Line 20-62). Specifically note that, in the apparatus/system of Gelb in view of Basham storage characteristics are defined for different levels of capacity, access mode, and performance (Gelb, Column 8 Line 20-62, i.e., *Storage classes and their service attributes*) and storage medium could be scaled as necessary employing the scaling method taught by Basham. Therefore, the method and system of Gelb in view of Basham further comprises defining a plurality of storage characteristics as storage characteristics that either require storage on optimally scaled storage medium or satisfy storage criteria for storing the dataset on optimally scaled storage medium.

Referring to claim 19, Gelb in view of Basham teaches the limitation:

"wherein determining further comprises identifying storage characteristics that satisfy storage criteria for storing the dataset on maximum capacity magnetic tape storage medium" (Column 8 Line 20-62). Specifically note that, in the apparatus/system of Gelb in view of Basham storage characteristics are defined for different levels of capacity, access mode, and performance (Gelb, Column 8 Line 20-62, i.e., *Storage classes and their service attributes*) and storage medium could be scaled as necessary employing the scaling method taught by Basham. Therefore, the method and system of Gelb in view of Basham further comprises defining a plurality of storage characteristics as storage characteristics that either require storage on optimally scaled storage medium or satisfy storage criteria for storing the dataset on optimally scaled storage medium.

Claim 20 is rejected on the same basis as claim 5.

As per claim 21, Gelb teaches the limitation:

"wherein the scaling module is further configured to select the storage instructions using a pre-defined look-up table containing a plurality of datasets that determine whether the received dataset is to be scaled" (Gelb Column 4 Lines 57-62 in view of Basham. Gelb Column 4 Lines 57-62 recites *The classes and groups are first defined using interactive means by a so-called Storage Administrator. The defined classes and groups are assembled into **control tables** used to implicitly select data*

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devices based on logical level specifications about the data set to receive an allocation of peripheral data storage space).

Claim 23 is rejected on the same basis as claim 21.

8. Claim 7, 9, 10, 12, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gelb in view of Basham and further in view of Stickler and further in view of Bergsten (U.S. Patent Application Publication Number 2003/0204672).

Referring to claim 7, the apparatus of Gelb in view of Basham and further in view of stickler as applied to 1 does not explicitly teach the limitations: "a network", "coupled to a network", and "from the controller over the network".

Bergsten teaches the limitation:

"a network", "coupled to a network", and "from the controller over the network" (Figure 3: *Network Adapter 312* and Paragraphs 0032 and 0033). Bergsten teaches a system and means of an advanced storage controller which is attached to a network (Figure 3 and Paragraphs 0032 and 0033).

At the time the invention was made, it would have been obvious to person of ordinary skill in the art to add the feature of coupling a storage system controller to a network as taught by Bergsten to the system and apparatus of Gelb in view of Basham so that the resultant system would be a system for scaling a storage medium to improve data access performance, the system comprising:

"a network configured to communicate data" (Bergsten, Figure 3: *Network Adapter 312* and Paragraphs 0032-0033);

"a storage controller coupled to the network" (Bergsten, Figure 3: *Network Adapter 312* and *Advanced Storage Controller 100* and Paragraphs 0032-0033);

"a magnetic storage device having a magnetic storage medium configured to store data" (Gelb, Figure 4: *Peripheral Data Storage 12*) "received from the controller over the network" (Bergsten, Figure 3: *Network Adapter 312* and *Advanced Storage Controller 100* and Paragraphs 0032-0033) "from a dataset from an application that does not support scaling" (Basham, Figure 8 and Column 14 Line 1 through Column 15 Line 39). The method and system of Basham accepts input data and scales tape capacity only because applications, which sent input data to the method and system of Basham, did not perform tape scaling in advance. In other words, it is inherent that the method and system of Basham accepts input data from applications that does not support scaling.);

"a host coupled to the network" (Gelb, Figure 4: *host processor 10* and Column 15 Lines 51-67 and Bergsten, Figure 3: *Network Adapter 312* and Paragraphs 0032-0033), "the host configured to exchange data with the controller" (Bergsten, Figure 3: *Advanced Storage Controller 100* and Paragraphs 0032-0033);

"an application operating within the host, the application configured to produce a dataset to be stored on the storage medium" (Gelb, Figure 4: *Application Programs 30* and Column 15 Lines 51-67);

“an identification module implemented in software for execution on a processor and configured to identify storage characteristics of the data set that indicate scaling is beneficial, wherein the storage characteristics comprise compaction and media interchange specifications” (Gelb in view of Basham and further in view of Stickler as applied to claim 1)

and “a scaling module configured to communicate with the application” (Gelb Figure 4: *Data Facility Product 32*, Figure 4: *Application Programs 30* and Column 15 Line s51-67) and “select a storage instruction in response to storage criteria applied to storage characteristics of the dataset and communicate the selected instructions to the storage controller” (Gelb, Column 12 Lines 43-61, i.e., *storage classes* and Column 18 Line 47 through Column 19 Line 15, i.e., *compare the information*), “wherein the storage characteristics comprise compaction, media interchange specifications, and an expiration date” (Gelb in view of Basham and further in view of Stickler as applied to claim 1), the storage instruction comprises an instruction to scale the magnetic tape storage medium to a predefined capacity for optimal data access performance” (Basham, Column 3 Lines 68-61, Column 11 Lines 25-30, Column 14 Lines 38-43, Column 14 Line 64 through Column 15 Line 6, and Column 15 Lines 16-39) and the storage controller stores the dataset on the magnetic tape storage device in response to the storage instruction”(Gelb, Column 16 Lines 60 through Column 17 Lines 40).

One would have been motivated to do so because network attached storage systems (NAS) is well known in the art and commonly implemented today.

Claim 9 is rejected on the same basis as claim 3.

Claim 10 is rejected on the same basis as claim 4. Note that the storing module (Gelb, Figure 4: *Data Facility Product 32*) would be performing the functions of the reception module, identification module, and scaling module of the claimed invention.

Referring to claim 12, Gelb teaches the limitation:

“wherein the scaling module operates within the host” (Gelb, Figure 4: *host processor 10* and *Data Facility Product 32* and Column 15 Lines 51-67).

As per claim 22, Gelb teaches the limitation:

“wherein the scaling module is further configured to select the storage instructions using a pre-defined look-up table containing a plurality of datasets that determine whether the received dataset is to be scaled” (Gelb Column 4 Lines 57-62 in view of Basham. Gelb Column 4 Lines 57-62 recites *The classes and groups are first defined using interactive means by a so-called Storage Administrator. The defined classes and groups are assembled into **control tables** used to implicitly select data devices based on logical level specifications about the data set to receive an allocation of peripheral data storage space*).

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9. Claim 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gelb in view of Basham and further in view of Stickler and further in view of Bergsten and further in view of Riedel et al. (hereinafter "Riedel") (Erik Riedel, Garth Gibson and Christos Faloutsos, *Active Storage for Large-Scale Data Mining and Multimedia, Proceedings of the 24th VLDB Conference, New York, USA, 1998*).

Referring to claims 13, Gelb in view Basham and further in view of Stickler and further in view of Bergsten does not explicitly teach the limitation: "wherein the scaling module operates within the storage controller".

Riedel teaches the limitation:

"“wherein the scaling module operates within the storage controller” (Page 1, Paragraph 2, Page 3 Figure 1, Column 1, and Paragraph 1 through Page 3 Column 2 Paragraph 1). Riedel teaches a system and method called *Active Storage* wherein application code is executed within the storage device controller/storage device (Page 1, Paragraph 2, i.e., *General purpose microcontrollers with 100-200 MHz processing speeds are already being incorporated into high-end commodity disk drives*; Page 3 Figure 1, i.e., *The Trend in Drive Electronics*; and Page 3, Column 1, Paragraph 1 through Page 3 Column 2 Paragraph 1, i.e., *With Active Disks, excess computation power in storage devices is available directly for application-specific function in addition to supporting these existing storage specific optimizations.*).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the feature of exploiting the processing power of embedded microprocessors inside disk controller/disk to execute application code as

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taught by Riedel to the system of Gelb in view of Basham and further in view of Bergsten so that, in the resultant system, the scaling module would operate either within the storage controller or the storage device. One would have been motivated to do so in order to *exploit the processors embedded in individual storage device for some of the data-intensive applications common in data mining and multimedia databases* (Riedel et al., Page 1, Column 2, Line 2-6).

Referring to claim 14, Riedel teaches the limitation:

“wherein the scaling module operates within the magnetic tape storage device” (Page 1, Paragraph 2, Page 3 Figure 1, Column 1, and Paragraph 1 through Page 3 Column 2 Paragraph 1). Also refer to the action on claim 13 for this limitation.

10. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gelb in view of Basham and further in view of Stickler and further in view of Bergsten and further in view of Mehlberg et al., (hereinafter “Mehlberg”) (U.S. Patent Application Publication Number 2003/0120379).

As per claim 24, Gelb in view of Basham and further in view of Stickler and further in view of Bergsten does not explicitly teach the limitation: “comprising an accessor configured as a robotic arm with cartridge gripper and a bar code scanner mounted on the cartridge gripper, wherein the accessor transports the magnetic tape storage medium to the magnetic tape storage device”.

On the other hand, Mehlberg teaches the limitation:

“comprising an accessor configured as a robotic arm” (Mehlberg, Paragraph 0004, i.e., *robotic arm*) “with cartridge gripper” (Paragraph 0026, i.e., *cartridge retrieval mechanism and a robotic hand or gripper*) and “a bar code scanner mounted on the cartridge gripper” (Paragraph 0028, i.e., *bar code scanned by the barcode scanner*), wherein the accessor transports the magnetic tape storage medium to the magnetic tape storage device” (Figure 1, i.e., *Tape Library* and Paragraph 0011, i.e., *tape library*).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the feature of using a robotic arm/gripper to the system of Gelb in view of Basham and further in view of Stickler and further in view of Bergsten so that the resultant system would comprise a robotic arm/gripper which retrieves tape cartridges. One would have been motivated to do so in order to automatically load data cartridge, which is a well-known practice in the art.

Conclusion

11. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection. THIS OFFICE ACTION IS MADE FINAL.

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

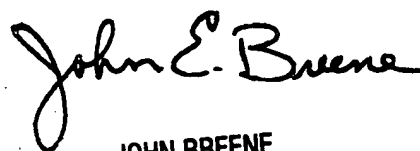
Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Myint whose telephone number is (571) 272-5629. The examiner can normally be reached on 8:30 AM - 5:30 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-5629.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dennis Myint
Examiner
AU-2162



JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100